



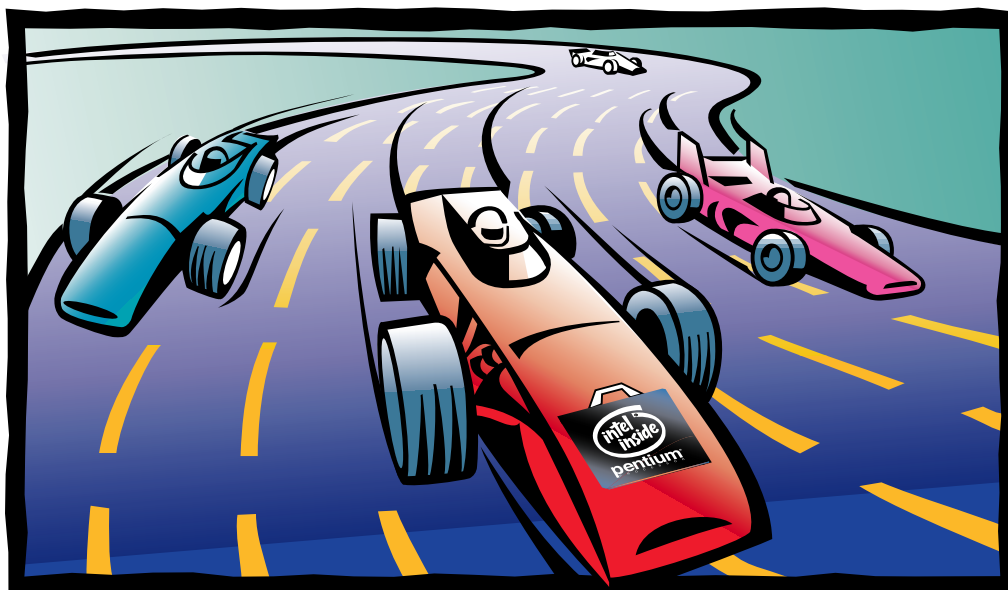
PCI in Mobile

Making data flow faster through your mobile PC.

Today's applications require more data to be processed and transmitted faster than ever before. The combination of video graphics and sound, create the need for greater data transfer capability (or bandwidth). The Peripheral Component Interconnect (PCI) bus handles these growing bandwidth requirements. First introduced to the industry in 1992, the PCI bus has rapidly become a desktop PC industry standard. This standard is now available in notebooks too.

User Benefits:

- More than 4 times faster than EISA, 10 times faster than ISA
- Better video, graphics and multimedia performance
- PCI cards costs less than the EISA equivalents
- Enables Plug and Play PCI peripherals



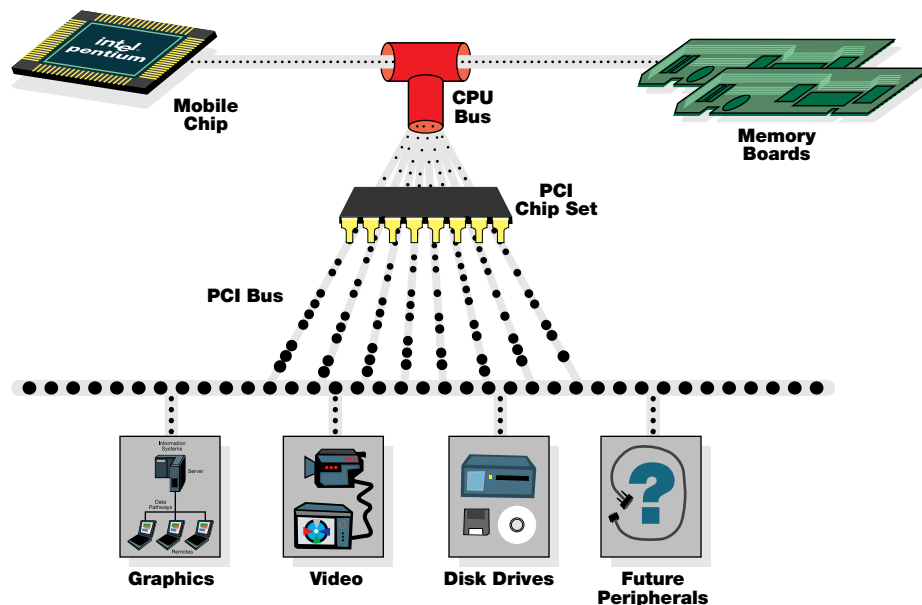
The ISA expansion bus, the design familiar to most people and well over a decade old, was developed to handle the 16-bit data transfer needs of a 286 computer—not the demands of today's high-performance notebooks with 32-bit processors operating at speeds up to 133MHz and beyond. These powerful processors are not fully utilized when hard disks, video boards and other peripherals are forced to exchange data with them on a path that's too narrow, too slow and too inefficient. The solution is the PCI bus.

The PCI bus is effectively more than 10 times faster than the ISA bus and four times faster than the EISA bus. The fast, wide (32-bit) design of the PCI bus makes it ideal for handling the data traffic required for video, 3D graphics and multimedia presentations. High-resolution, full-color, full-motion video in multiple windows is finally possible.

Another advantage of the PCI bus for the mobile user is the peripheral upgrade and expandability options. A user can take advantage of the latest modem, network or video capture PCMCIA cards. What's more, these PCI devices are easier to install, with shortcuts like Plug and Play. Configuration specifications are simply included in on-board memory, providing installation information to the system during the bootup phase that autoconfigures the device and optimizes setup for your system.

Yet another PCI advantage is a built-in buffer that isolates the CPU from peripherals. This buffer enables the PCI controller to store data your CPU writes to a device, allowing the CPU to race immediately to the next task instead of waiting for completion of the transfer. While the buffer feeds the data to your PCI device, your CPU is free to handle other tasks.

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How Does the PCI Bus Work?

A local bus takes peripherals off the I/O bus and connects them, together with the CPU and memory subsystem, to a wider and faster pathway for data. An advanced, high-performance local bus design supporting multiple peripheral devices, PCI is an highly integrated architecture optimized to take maximum advantage of today's available microprocessor and computer technology. Working as a processor-independent bridge between the CPU and high-speed peripherals, PCI acts as a traffic controller, accelerating data transfer between the CPU and peripherals.

How much faster is the PCI bus? A 32-bit bus, PCI runs at 33MHz, yielding a 132 Mbps peak throughput rate. Compare this to the EISA 32-bit bus running at 8MHz for a 32 Mbps peak throughput rate, or the ISA 16-bit bus running at 8MHz for a 5 Mbps peak throughput rate.

PCI, however, brings much more than high bandwidth to the notebook. It ensures reliable operation between components and the system, while maintaining compatibility with existing ISA, EISA and Micro Channel

expansion buses. It allows peripherals to take full advantage of available processing. It supports auto-configuration of Plug and Play add-in cards. It offers system designers a standardized design path. And it's less taxing on the system CPU. In fact, its buffer frees the CPU from most data transfer tasks, enabling the CPU to concentrate instead on running applications and processing file and print services. The result is you can work faster because your computer works faster.

The PCI bus is now available in notebooks at its full speed of 33MHz—bringing true desktop performance to notebooks. PCI also enables the new CardBus standard for PCMCIA cards.

Support throughout the industry for PCI is widespread. A PCI Special Interest Group (SIG) made up of Intel and other leading companies in the computer industry is busy promoting, overseeing and enhancing the development of PCI as an open, non-proprietary local bus standard. Currently, over 170 companies have adopted the PCI specification and you'll find it available in the majority of today's systems.

Technology Highlights:

- Available in notebook PCs
- 32-bit design yields greater than 100 Mbps peak throughput rate
- Processor-independent, so it scales across the family of mobile Pentium processors.
- Built-in buffer frees CPU from data transfer chores
- Configuration specifications for PCI cards set in on-board memory enable Plug and Play installation
- Compatible with ISA, EISA and Micro Channel buses

For more information on PCI, please access Intel's home page on the World Wide Web at:

<http://www.intel.com/>

For more specific information on PCI for mobile computers, please refer to the following web site:

<http://www.intel.com/procs/mobile>

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